METHOD AND APPARATUS FOR LABELING AND ANALYZING CELLULAR COMPONENTS

Abstract of the Disclosure

A labeling method that labels an object or specific features of an object with

5   labeled probes that provide a multiplexed signal that can be analyzed by spectral decomposition. This binary and higher encoding scheme can be employed to label components of biological cells. In each encoding scheme, labeled probes that selectively bind to a specific feature are required. The labeled probes include a binding element that binds to the feature, and at least one signaling component that

10   generates a detectable signal, preferably a spectral signature. In one embodiment, adding multiple fluorescent dye molecules to each binding element provides the multiplexed signal. In another embodiment, adding only one signal compound to each binding element provides the multiplexed signal, such that some of the binding elements have a different signal compound added. The different signal compounds

15   provide the multiplexed signal.